City of Broken Arrow – Annual Drinking Water Quality Report – 2006

Introduction

We're pleased to report that our drinking water is safe and meets Federal and State drinking water standards. This report is designed to inform you about the quality of the water and services we deliver to you each day. Our constant goal is to provide you with a safe and dependable supply of drinking water. Our primary water source is the Oklahoma Ordnance Works Authority plant at Pryor, Ok. This plant draws its raw water from the Grand River below Lake Hudson. Our secondary water source is our own water treatment plant, which treats water from the Verdigris River east of Broken Arrow. Both plants are surface water systems.

The Broken Arrow Municipal Authority is responsible for operating the City's water utility. The Utilities Department is charged with the daily operation of the water utility. If you have any questions about this report or concerning your water utility, please contact Paul Rhodes, Utilities Director at 259-7000. We want our valued customers to be informed about their water utility. If you want to learn more about the Broken Arrow Municipal Authority or the water utility, you may attend any of our regularly scheduled meetings. They are held on the first and third Mondays of each month in the City Council Chambers at City Hall, 200 S. 1st Street, immediately after the City Council meeting that starts at 6:30 p.m.

The City of Broken Arrow routinely monitors for constituents in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1st through December 31st, 2006. In the table, you will see references to MCL or (Maximum Contaminant Lever). Federal law establishes the MCL's for contaminants in drinking water. MCL's are set at very stringent levels. To understand the possible health effect described for any regulated constituent, a person would have to drink 2 liters (over ½ gallon) of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect. The table shows that our system has had no violations this year.

Drinking water, including bottled water, may reasonable be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800) 426-4791. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water before treatment includes:

- *Microbial contaminants*,,such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- *Inorganic contaminants* ,such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- *Pesticides and herbicides*, which may come from a variety of sources such as agriculture and residential uses.
- *Radioactive contaminants*, which are naturally occurring.
- *Organic chemical contaminants*, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas station, urban storm water runoff, and septic system.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

You may have noticed a smell to the water that is caused by using Chlorine Dioxide as a pretreatment disinfectant. This is being used to lower the lever of THM's created during the treatment process. When the water is turned on the Chlorine Dioxide, being very volatile is released into the atmosphere and may combine with other molecules in the air causing some chemical like smells. The water is safe and the Chlorine Dioxide isn't harmful in the levels used to treat the water. Airing out the house can improve this condition.

Definitions

In the table you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions.

Parts per million (ppm) = Milligrams per liter (mg/l)

Parts per billion (ppb) = Micrograms per liter (ug/l)

Nephelometric Turbidity Unit (NTU) – is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Action Level (AL) – the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique (TT) – A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

Maximum Contaminant Level (MCL) – The MCL is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG) – This is the level of a contaminant in drinking water below which there is no known or expected risk of the health.

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Microbiological Contaminants

Contaminant	Violation Y/N	Level Detected	MCL	MCLG	Unit of Measure	Date Sampled	Likely Source of Contamination
Total Coliform Bacteria (Systems taking >40 monthly samples	No	1	1	0	each	90/month	Naturally present in the environment
Fecal Coliform and E. coli	No	0	a routine sample and repeat sample are total colifrom positive, and one is also fecal coliform positive	0	each		Human and animal fecal waste
Turbidity(NTU)	No	0 - .5	<0.5 in 95% of monthly samples	n/a	NTU	Nov. 06	Soil runoff

Radioactive Contaminants

Beta/Photon emitters	No	1.0 - 1.0	50	0	pCi/L	2004	Decay of natural and man-made deposits
Alpha emitters	No	0.51 – 0.80	15	0	pCi/L	2004	Erosion of natural deposits

Inorganic Contaminants

Barium	No	.051 – .051	2	2	ppm	2006	Discharge of drilling wastes, metal refineries and erosion of natural deposits
Fluoride	No	0.78 – 0.97	4	4	ppm	2006	Erosion of natural deposits,discharge from fertilizer and aluminum factories and water additive which promotes strong teeth
Nitrite-Nitrate	No	0.24	10	10	ppm	05/06	Runoff from fertilizer use, leaching from septic tanks and erosion of natural deposits
Lead	No	2 @ 90th percentile	AL 15	0	ppb	08/06	Corrosion of household plumbing system, erosion of natural deposits
Copper	No	.55@ 90TH percentile	AL 1.3	1.3	ppm	08/06	Corrosion of household plumbing systems, erosion of natural deposits and leaching from wood preservative

Disinfection By Product Contaminants

TTHM total trihalomethanes	No	19.1 –50.1	80 running aver	0	ppb	06	By-product of drinking water chlorination
HAA5 total haloacetic acids	No	14.2-41.9	60	0	ppb	06	By-product of drinking water chlorination
Chlorite	No	0.05-0.75	1.0	.8	ppm	06	By-product of adding chlorine dioxide in the water plant

Summary

The Broken Arrow Municipal Authority has replaced one of the trunk water lines into town that increased the capacity of that line to carry water and also reduced the pressure on the system at the water plant. We are in the early stages of an engineering study and the eventual construction of a new water treatment plant that will increase the Utilities ability to provide water during peak usage period.